



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,775	10/01/2003	Kirk Charles Frederickson	67,008-076; S-5656	7918
74187 7590 01/15/2010 Carlson, Gasky, & Olds, P.C./Sikorsky 400 West Maple Road, Suite 350 Birmingham, MI 48009				
EXAMINER				
LUONG, VINH				
ART UNIT		PAPER NUMBER		
3656				
MAIL DATE		DELIVERY MODE		
01/15/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/676,775

Applicant(s)

FREDERICKSON, KIRK CHARLES

Examiner

Vinh T. Luong

Art Unit

3656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4, 5, 8, 9, 13, 19 and 27-36 is/are pending in the application.
- 4a) Of the above claim(s) 8, 9, 13, 19 and 27-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5 and 31-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. The amendment filed on October 29, 2009 has been entered.
2. The restriction requirement on April 5, 2005 and the election of Group A drawn to FIG. 2B, Subgroup I, on May 4 and 23, 2005 in the parent application are carried over to the instant RCE application. MPEP § 819.
3. Claims 8, 9, 13, 19, and 27-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention and/or species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on May 4 and 23, 2005.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1, 2, 4, 5, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanski (US 2,309,172) in view of Maslov et al. (US 20050184689, *i.e.*, a continuation of Application No. 10/359,305 filed on February 6, 2003).

Claims 1, 2, 4, 5, and 31

Kanski shows, in Figs. 1 and 2, a force generator comprising:

a rotationally fixed first circular member 64 defined about a first axis (about a shaft 52) to define a first inner diameter circular path, the first circular member having a first radius;

a second circular member 55 defined about a second axis (about element 54) offset from the first axis to define a second radius, the second radius being one-half the first radius, the second circular member movable about the circular path to simultaneously complete one revolution about the second axis and one orbit around the first axis;

a mass 56 located adjacent a circumference of the second circular member to generate a vibratory inertial force; wherein the vibratory inertial force is a sinusoidal inertial force in a straight line (d_1); the path of the mass 56 is two-cusp hypocycloid (d_1); the first circular member comprises a ring gear; the second circular member comprises a planet gear;

a crank 53 which mounts the second circular member, the crank 53 rotates about the first axis (about the shaft 52);

a power source (a motor), which drives the crank (p. 4, col. 2, ll. 34-68).

In summary, Kanski teaches the invention as claimed except a processor and a sensor system in communication with the processor. See the Board decision on April 29, 2009.

Maslov teaches the processor (FIG. 21; ¶¶ 22, 42, 60, 72, 171, 240, 263, and 318) and the sensor system 62, 66, 45, 146, *etc.* (FIGS. 16 and 20; ¶¶ 170, 171, 239, 241, 244, 245, 258, and 259; claims 11, 22, and 33) in communication with the processor, wherein the processor controls the power source/motor (¶¶ 60 and 72) in order to, *inter alia*, continuously vary the phase and magnitude (¶¶ 266 and 286) of the force from the generator (¶¶ 187 and 314; claim 24). As noted, Maslov's force broadly includes the vibratory inertial force.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the processor and the sensor system in communication with the processor wherein the processor controls the power source in order to, *inter alia*, continuously vary the phase and magnitude of the force including the vibratory inertial force from the generator of Kanski as taught or suggested by Maslov. The use of the processor and sensor system in Kanski's force generator as taught or suggested by Maslov would not have been uniquely challenging to a person of ordinary skill in the art because it is no more than "the

simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement” *KSR Int’l. Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) and it “does no more than yield predictable results.” *KSR* at 1739.

Claim 32

Kanski’s motor broadly includes an electric motor. In addition, Maslov’s motor is an electric motor (Maslov, ¶ 3).

6. Claims 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanski in view of Maslov as applied to claim 1 above, and further in view of Kotoulas et al. (US 20020117579).

Claims 33 and 34

Kanski and Maslov teach the invention substantially as claimed. However, Kanski and Maslov do not explicitly teach the location of at least one sensor of the sensor system.

Kotoulas teaches at least one sensor 49, 90, 92, *etc.* mounted in the cockpit and cabin area 50 in order to measure the vibration. (Kotoulas, ¶¶ 2, 18 and 40; FIGS. 1 and 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to mount at least one sensor in the cockpit and cabin area in order to measure the vibration of Kanski’s force generator modified by Maslov as taught or suggested by Kotoulas. *KSR*.

Claim 35

Kotoulas teaches the sensor system 48 that generates signals representative of dynamic changes at selected locations as a main rotor assembly of a rotary wing aircraft rotates. (Kotoulas, ¶¶ 2 and 25; claim 40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the sensor system that generates signals representative of dynamic changes at selected locations as a main rotor assembly of a rotary wing aircraft rotates in order to measure the vibration of Kanski's force generator modified by Maslov as taught or suggested by Kotoulas. *KSR*.

Claim 36

Kotoulas's phase and magnitude is capable of being continuously varied by Maslov's processor in response to changing dynamic characteristics in part caused by Kotoulas' rotor assembly. (Kotoulas, FIG. 6; ¶¶ 63 and 109). On the other hand, it is well settled that the "wherein" or "whereby" clause that merely states the inherent results of limitations in the claim adds nothing to the claim's patentability or substance. *Texas Instruments Inc. v. International Trade Commission*, 26 USPQ2d 1018 (Fed. Cir. 1993); *Griffin v. Bertina*, 62 USPQ2d 1431 (Fed. Cir. 2002); and *Amazon.com Inc. v. Barnesandnoble.com Inc.*, 57 USPQ2d 1747 (Fed. Cir. 2001).

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Maslov'080 (FIG. 1).
8. Applicant's arguments filed October 29, 2009 have been fully considered but they are not persuasive.

The previous rejections of claims 1, 2, 4, 5, 7, 23, and 31 under 35 USC § 112 and under 35 USC § 103 as being obvious over Kanski in view of Fink are withdrawn in view of the amendments to the claims. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinh T. Luong whose telephone number is 571-272-7109. The examiner can normally be reached on Monday, Tuesday, Thursday, and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vinh T Luong/
Primary Examiner, Art Unit 3656